



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT
P.O. BOX 621
HONOLULU, HAWAII 96809

PETER T. YOUNG
CHAIRPERSON

MEREDITH J. CHING
JAMES A. FRAZIER
NEAL S. FUJIWARA
CHIYOME L. FUKINO, M.D.
LAWRENCE H. MIKE, M.D., J.D.
STEPHANIE A. WHALEN

DEAN A. NAKANO
ACTING DEPUTY DIRECTOR

Ref: 766.sub

STAFF SUBMITTAL

for the meeting of the
COMMISSION ON WATER RESOURCE MANAGEMENT

July 12, 2006
Honolulu, Oahu

Mark Hamamoto
APPLICATION FOR A WATER USE PERMIT
Hamamoto - 2006 Well (Well No. 3306-16), TMK 6-6-28:22, WUP No. 766
New (Domestic and Agriculture) Use for 0.015 mgd
Mokuleia Ground Water Management Area, Oahu

APPLICANT:

Mark Hamamoto
P.O. Box 204
Waialua, HI 96791

LANDOWNER:

Same

SUMMARY OF REQUEST:

The applicant requests that the Commission approve a water use permit for an allocation of 0.015 million gallons per day (mgd) of potable ground water from a proposed new well for the domestic needs of one residential unit and the irrigation supply for 6 acres of diversified agriculture.

LOCATION MAP: See Exhibit 1

BACKGROUND:

On April 26, 2006, a completed water use permit application was received from Mark Hamamoto by the Commission on Water Resource Management (Commission). Additional information regarding the source, use, notification, objections, and field investigation(s) is provided in Attachment A.

ANALYSIS/ISSUES:

Section 174C-49(a) of the State Water Code establishes seven (7) criteria that must be met to obtain a water use permit. An analysis of the proposed permit in relation to these criteria follows:

(1) Water availability

Through the Hawaii Water Plan, the Commission has adopted 12 mgd as the sustainable yield for the Mokuleia Aquifer System Area. Individual existing water use permits in this aquifer system are shown in Exhibit 2. A summary of the current ground water conditions in the aquifer is provided in Table 1:

Table 1. Mokuleia Aquifer System

ITEM	Mokuleia Aquifer System Area (mgd)
Sustainable Yield	12
Less: Other Existing Water Use Permits (shown in Exhibit 2)	8.012
Subtotal (Current Available Allocation)	3.988
Less: Other Completed Applications	0
Less: This Application	0.015
Subtotal (Potential Available Allocation)	3.973

Table 1 shows that there is adequate water available to accommodate this request.

(2) Reasonable-beneficial

Section 174C-3 HRS defines "reasonable-beneficial use" is

"...the use of water in such a quantity as is necessary for economic and efficient utilization, for a purpose, and in a manner which is both reasonable and consistent with the state and county land use plans and the public interest".

I. Purpose of Use

The applicant is requesting the use of potable water for the domestic needs of one residence and to supply irrigation water for 6 acres of diversified agriculture. Based on four years of experience working on a 5-acre farm in Makaha (1995-1999), the applicant was able to qualify and receive both a USDA Farm Ownership loan (\$200,000) and a State Department of Agriculture Farm Operating Loan (\$25,000).

The Declaration of Policy section, §174C-2(c) HRS, states that the Water Code shall be liberally interpreted to obtain maximum beneficial use of the waters of the State for various purposes such as domestic and irrigation uses.

II. Quantity Justification

The applicant is requesting a total of 0.015 mgd for domestic use and irrigation of various crops as shown in Exhibit 3. The applicant estimated his irrigation water demand based on consultations with neighboring farmers, who are growing the same types of crops using city water. Low and peak water use for the different crop types was determined and the total requested quantity is slightly less than the average of the projected low and peak water use. However, metered data from other nearby farms was not provided.

The Commission used to rely on county guidelines (Table 4-4, Oahu Water Management Plan, 1992 Draft and County Water System Standards, 1985) to determine reasonable water use quantities for various crops. However, the findings in the Waiahole Ditch contested case hearing suggested that the guidelines overestimate irrigation requirements. In addition, the guidelines do not take into account regional climatic variability and other factors that determine water use, such as soil properties, irrigation system type and other agricultural practices.

The Commission recently approved staff's request to enter into a contract with the University of Hawaii's College of Tropical Agriculture and Human Resources to develop an irrigation model that would address some of the deficiencies in the guidelines. It is anticipated that development of the model will take about 18 months. In the interim, the principal investigator for the irrigation model study, Dr. Ali Fares, has agreed to review some applications for irrigation use. The results of Dr. Fares' calculations are shown in Exhibit 4.

A comparison of the requested duties with the various guidelines for the different crop types is shown in Exhibit 5. Because Dr. Fares' calculations take into account many of the factors that influence actual demand, staff is recommending that the Commission approve an allocation based on Dr. Fares' analysis. For the irrigation demand, the recommended allocation is 7,448 gpd (8,762 less 15% for non-irrigated areas).

The current county guideline for domestic water use (500 gpd per single-family unit) has not been called into question.

Therefore, the total recommended allocation is 7,948 gpd (or 0.008 mgd) for both the domestic and irrigation needs.

The applicant recently learned about the services of the Natural Resources Conservation Service (NRCS) at a farmers meeting. He does plan to consult and work with NRCS, with a particular interest in their grant, soil conservation, and weed/pest control programs (personal communication with Mark Hamamoto, June 27, 2006).

III. Efficiency of Use

Efficiency measures include: 1) mulching; 2) use of windbreaks; 3) use of cover crops to build up organic matter in the soil which will increase soil water-holding capacity; 4) watering at night using a timer system; and 5) shutting of the irrigation system during rainy weather (personal communication with Mark Hamamoto, June 26, 2006).

The proposed efficiency measures appear to be adequate for this small farming operation.

IV. Analysis of Practical Alternatives

The applicant has identified two alternatives to the proposed use of potable ground water. An analysis of each of the alternatives follows:

1. City/BWS Water – The applicant has consulted with professional engineers who have estimated that it will cost approximately \$2 million to bring City water to the property. Board of Water Supply has reviewed this application and does not object to the proposed use of well water.
2. Dole R-2 Water – Dole will not provide any long-term stable lease. In addition, the applicant has decided to fully pursue becoming an organically certified farm. An organically certified farm is restricted from using any treated wastewater or water with other potential biological contaminants and pathogens on the farm. This includes all R-2 water. The restriction on R-2 water use has been verified with the Hawaii Organic Farmers Association.

It does not appear that there are any practical alternatives to the proposed water use.

(3) Interference with other existing legal uses

There are a number of existing and proposed wells within 1 mile of the proposed source. A list of the wells is shown in Exhibit 6. Of the 68 individual sources, 36 of the wells are either sealed, unused, or are observation wells that are not being pumped. The proposed source is located close to the boundary between the Waialua and Mokuleia Aquifer System Areas. Actual reported use in these aquifers as of December 31, 2005 is 0.461 mgd for the Mokuleia Aquifer System Area and 3.148 mgd for the Waialua Aquifer System Area (Exhibits 7 and 8). This represents less than 4% and 8% of the sustainable yields for the Mokuleia and Waialua Aquifer System Areas, respectively. Other proposed new wells in the immediate vicinity of Well No. 3306-16 are domestic wells that will serve only one residence each. Staff does not anticipate that the proposed use of 0.015 mgd (or recommended 0.008 mgd) will interfere with any other existing legal use of water.

(4) Public interest

Public interest is defined under §174C-2 - Declaration of policy, as follows:

“(c) The state water code shall be liberally interpreted to obtain maximum beneficial use of the waters of the State for purposes such as domestic uses, aquaculture uses, irrigation and other agricultural uses, power development, and commercial and industrial uses. However, adequate provision shall be made for the protection of traditional and customary Hawaiian rights, the protection and procreation of fish and wildlife, the maintenance of proper ecological balance and scenic beauty, and the preservation and enhancement of waters of the State for municipal uses, public recreation, public water supply, agriculture, and navigation. Such objectives are declared to be in the public interest.”

The well water will be used for domestic uses and agricultural irrigation, which are listed as beneficial uses in the above Declaration of Policy. Through the public notice, review, and objection process, no party has come forward to assert that their water rights, or that any of the objectives declared to be in the public interest, will be impacted by this proposed water use.

With regard to Native Hawaiian water rights, Standard Conditions 1., 3.d., 3.g., 4., 6., 9.b., and 9.f. address these concerns.

The application states that water will be used for the growing of food crops to feed Hawaii's people. Crops will be used for domestic (Oahu) consumption, and not for export to the mainland.

Office of Hawaiian Affairs has submitted comments, but does not object to the issuance of a water use permit (Exhibit 9).

Therefore, this proposed water use is in the public interest.

(5) State & county general plans and land use designations

The proposed use are in the State Agricultural District, and the county zoning is Ag-1. The Department of Planning and Permitting and Land Use Commission have confirmed that the proposed use is consistent with these land use designations.

Normal agency review includes:

- 1) the State's Department of Land and Natural Resources (DLNR) and its State Parks, Aquatic Resources, Historic Preservation, and Land Divisions; the Department of Health (DOH) with its Clean Water, Safe Drinking Water, and Wastewater Branches; the Department of Hawaiian Home Lands (DHHL); Land Use Commission (LUC); and the Office of Hawaiian Affairs (OHA).
- 2) the City Department of Planning and Permitting, and the Honolulu Board of Water Supply;

Except for the comments from OHA (Exhibit 9), no concerns or objections have been raised through this review. The proposed water use is consistent with the state & county general plans and land use designations.

(6) County land use plans and policies

Again normal County review includes County Council, Department of Planning and Permitting, and the Department of Water Supply. The DPP has confirmed that the proposed water use is consistent with the county land use plans and policies.

(7) Interference with Hawaiian home lands rights

All permits are subject to the prior rights of Hawaiian home lands. The Department of Hawaiian Home Lands (DHHL) have reviewed this application and has no comments or objections. Further, standard water use permit conditions 3.g., 6., and 9.f. notify all water use permittees that their permits are subject to and cannot interfere with Hawaiian home land rights.

Therefore, the proposed water use will not interfere with Hawaiian home lands rights.

RECOMMENDATION:

Because the proposed water use has been shown to be consistent with the legal criteria for obtaining a water use permit, staff recommends that the Commission approve the issuance of Water Use Permit No. 766 to Mark Hamamoto for the reasonable and beneficial use of 0.008 million gallons per day of potable water for domestic and agriculture use from the Hamamoto - 2006 Well (Well No. 3306-16), subject to the standard water use permit conditions listed in Attachment B and the following special conditions:

1. Should an alternate permanent source of water be found for this use, then the Commission reserves the right to revoke this permit, after a hearing.
2. In the event that the tax map key at the location of the water use is changed, the permittee shall notify the Commission in writing of the tax map key change within thirty (30) days after the permittee receives notice of the tax map key change.

Respectfully submitted,

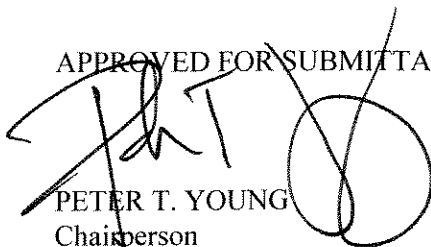


DEAN A. NAKANO
Acting Deputy Director

Attachment(s): A (Water Use Permit Detailed Information)
 B (Water Use Permit Standard Conditions)

Exhibit(s): 1 (Location Map)
 2 (Existing Water Use Permits and 12-Month Moving Average Withdrawal)
 3 (Proposed Agricultural Uses)
 4 (Irrigation Calculation by Dr. Ali Fares)
 5 (Irrigation Duty Summary)
 6 (Graph of Reported Pumpage – Mokuleia Aquifer System Area)
 7 (Graph of Reported Pumpage – Waialua Aquifer System Area)
 8 (Other Nearby Wells)
 9 (OHA Comments)

APPROVED FOR SUBMITTAL:



PETER T. YOUNG
Chairperson